DOCUMENT RESUME

ED 214 518 IR 010 090

AUTHOR Hortin, John A.
TITLE Experimental Phenomenology and Visual Literacy.
PUB DATE 80
NOTE 25p.; For related documents, see IR 010 091-092 and IR 010 094.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cognitive Processes; *Educational Research; Films; Futures (of Society); Imagery; *Learning Theories; Models; Television Viewing; *Visual Learning; *Visual Literacy; Visual Perception
IDENTIFIERS *Phenomenology

ABSTRACT

Experimental phenomenology requires that educators acknowledge the experiences of the learner. Today, many of those experiences are images that come from television. In a behaviorist or humanist tradition, learning takes place through experience, and learners comprehend, make decisions, and analyze their behavior through reflection. Meaning is ascribed to past experience and television contributes to this passive, reflective stance. In fact, television processes images which are not directly experienced. Separating the programmed television image from the directly experienced image has become more difficult. However, phenomenologists maintain that ongoing or future experiences may be just as valuable as past experiences in terms of bringing meaning to our lives. Visual literacy provides training for understanding future experiences through visual thinking. The emphasis in visual literacy should be that it is a means to visual thinking and not just an understanding and creation of visual language. Through visualization, mental imagery, visual mapping, and introspection, the study of how man thinks, rather than how he behaves, becomes the fulcrum of investigation. Thus, an emphasis on future or projected reflection brings a fresh and new perspective to the power of visual literacy training in terms of decision-making, evaluation, self-image, and teaching strategy. An extensive bibliography is attached. (Author/MER)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED2145518

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
■ This document has been reproduced as received from the person or organization originating it.
□ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

EXPERIMENTAL PHENOMENOLOGY AND VISUAL LITERACY

by

John A. Hortin

Kansas State University

Running Head: Visual Literacy

IR010090

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
John A. Hortin
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Abstract

Experimental phenomenology requires that educators acknowledge the experiences of the learner. Today many of those experiences are images that come from television. In a behaviorist or humanist tradition, learning takes place through experience, and learners comprehend, make decisions and analyze their behavior through reflection. Meaning is ascribed to past experience and television contributes to this passive, defacto, reflective stance. In fact, television processes images which are not directly experienced. Separating the programmed television image from that image which is directly experienced has become more difficult. However, phenomenologists maintain that ongoing or future experiences may be just as valuable as past experiences in terms of bringing meaning to our lives. Visual literacy provides training for understanding future experiences through visual thinking. The emphasis in visual literacy should be that it is a means to visual thinking and not just an understanding and creation of visual language. Through visualization, mental imagery, visual mapping and introspection, the study of how man thinks, rather than how he behaves, becomes the fulcrum of investigation. Thus, an emphasis on future or projected reflection (introspection) brings a fresh and new perspective to the power of visual literacy training in terms of decision making, evaluation, self-image and teaching strategy.

The Rochester School

The pervasiveness and importance of images in our world today cannot be overstated. We are influenced, taught, and manipulated by all kinds of visual information including television, magazines, signs and symbols, advertisements, body language and motion picture films. The process by which we receive visual meaning and transmit visual meaning is a major concern in the study of visual literacy. Visual literacy "is based on the confluence of knowledge, theory, and technology in many areas" (Debes, 1968, p. 963). The people who have influenced thinking about the concept of visual literacy include John L. Debes, Clarence Williams, Colin Murray Turbayne, Rudolf Arnheim, and Robert McKim. Eastman Kodak Company has played a role. Researchers on the left- and right-brain hemispheres and perception theory as well as artists and educators have been important in the visual literacy field. Debes, who is retired from the University of Rochester, coined the term visual literacy (Fransecky & Debes, 1972) and along with Clarence Williams helped found the International Visual Literacy Association. The "Rochester School" of John L. Debes, Clarence Williams and Colin Murray Turbayne molded the development of the theoretical foundations of visual literacy (Hortin, 1980a).

Eastman Kodak in Rochester, New York, was instrumental in providing financial backing for visual literacy programs and research. Kodak's help has been a mixed blessing, however, because more credence would probably have been given to past research in visual literacy if Kodak had not played such an important part in the support of research at this nascent stage of the visual literacy movement.

Turbayne (1970), a philosopher at the University of Rochester, has

been credited with making the analogy between verbal language and visual language in his book, The Myth of Metaphor. Arnheim's (1969) theory on visual thinking was also important in developing the visual literacy concept.

Basically, visual literacy is the ability to understand (read) and use (write) images and to think and learn in terms of images (Hortin, 1980b, p. 218). Flory (1978) summarized the primary concepts that support the rationale for visual literacy:

(1) A visual language exists;
(2) People can and do think visually;
(3) People can and do learn visually;
(4) People can and should express themselves visually. (p. 4)

Some visual literacy proponents have become caught up in the current interest in left- and right-brain hemispheric research and used this research to support the need for visual literacy programs. However, a broader perspective on research is needed, one that investigates other areas of mind research including brain chemistry. psychobiology, visual thinking, mind-body connection, and the dual coding processes. I believe that curriculum theorists need to become more aware of the uses of visual thinking, especially visual rehearsal. McKim (1972) wrote:

> Visual thinking pervades all human activity, from the abstract and theoretical to the down-to-earth and everyday. An astronomer ponders a mysterious cosmic event; a football coach considers a new strategy; a motorist maneuvers his car along an unfamiliar freeway; all are thinking visually. You are in the midst of a dream; you are making order out of the disarray on your desk: you are thinking visually. (p. 6)

Visual Literacy Research

The research used to support visual literacy has come from other fields of study. Specific articles or research studies on visual literacy that have had an impact and deserve mention include those of Fransecky and Debes (1972), Hocking (1978), Fork and Newhouse (1978), Dwyer (1972, 1978), Anderson (1974), Ausburn and Ausburn (1978), Cureton and Cochran (1976), Edwards (1979), Fleming (1977), Fransecky (1972), Gozemba (1975), Levie (1978), Nuell (1971), Paivio (1971. 1975), Turner (1978). Wood (1974). Woodruff (1976), and Cochran, Younghouse, Sorflaten and Molek (1980).

Much of the research in visual literacy has centered on teaching visual literacy skills using different types of media, e.g., film or "Photo-Story Discovery Sets," or teaching visual literacy understanding and applying visual literacy concepts within the context of a discipline, e.g., English or reading (Culhane, 1970; Foster, 1976; Fransecky. 1972; Hutton, 1978; Johnson, 1977; Newhouse. 1977; Strandberg & Griffith, 1969; Wells, 1975; Wood, 1974). The work of John Debes (1972. 1974) has stressed the need for developing the skill of sequencing pictures and organizing ideas. The translation of information from verbal mode to visual mode was another important research aspect of visual literacy (Hocking, 1978; Williams, 1970). Suggestions for film utilization were supplied by the studies of Wood (1974), Woodruff (1976), Johnson (1977), Hardwick (1975), and Foster (1976). Dwyer (1969, 1970. 1972) provided generalizations and guidelines on the use of visual information in the classroom with his work on illustrations and their effectiveness. Mulholland (1970) did research on biofeedback attention and visual information.

Many researchers have used visual literacy to improve students' reading and writing skills. While no clear connection between visual literacy and verbal literacy has been proven, the research is encouraging (Garbacik, 1978; Strandberg & Griffith, 1970; Newhouse, 1977; Wells, 1975; Lubke, 1978). In fact, Strandberg and Griffith (1969) showed that if a child has the opportunity to work with visual sequencing and talk about pictures he has locally produced, he increases his verbal articulation (Debes, 1972. p. 16; Newhouse, 1977, p. 31; Wells, 1975, p. 54). Wells (1975) found the use of visual literacy is an effective means of improving language skills (pp. 123-125). However, Minor (1970) suggested that better control must be imposed on future research on visual literacy and language development.

Several researchers found that visual literacy training helped improve self-concept (Gardner & Ingram, 1970; Hefferman-Cabrera, 1970; Hedges, 1972; Debes, 1972; Culhane, 1970; Ross, 1972; Cureton & Cochran, 1976; Case-Gant, 1973).

Perception theory has played a major role in developing the visual literacy concept and probably started with the theory of pictures offered by Gibson (1954). The theories of perception have supported the need for training, and the important components of training in visual literacy are visual elements. Turbayne (1970), Dondis (1973), Ruesch and Kees (1961), Zettl (1973), Kepes (1966) and others have dealt with visual elements. Turbayne (1970) believes that the human being has to learn to read visual elements; he calls this learning to read visual elements <u>visual literacy training</u>.

The connection between visual language and visual thinking was made by Flory (1978), Haber (1970), Anderson (1974), Paivio (1969, 1971),

Samples (1976), Edwards (1979), McKim (1972), Arnheim (1969, 1977), Patten (1973) and others. Visualization, mental imagery. symbolic systems, visual thinking, dua. coding and mnemonic strategy should be taught as a part of visual literacy skills for creative thinking as well as for learning strategy and for storing and processing information.

Conclusions from research on visual literacy can be summarized as follows:

1. Perception involves the active processing of information by the individual (Murch, 1973).

2. An important aspect of perception is the ability to understand visual elements (Turbayne, 1970; Taylor, 1960; Dondis, 1974; Gregory, 1970).

3. Visual elements and their composition are thought to be analogous to verbal language elements such as letters and syntax. consequently the use of the term visual language (Debes, 1970, 1972. 1974; Barley. 1971; Turbayne. 1970; Flory. 1978; Ausburn & Ausburn, 1978; Lamberski, 1976; Whitsitt, 1976).

4. Visual language is a means to visual thinking through the study of symbolic systems, dual coding, mental imagery, and visualization (Arnheim. 1969; Bry. 1978; Canelos, 1980; Fleming, 1977; Flory. 1978; Majure, 1976; Paivio, 1969, 1971; Salomon, 1979; Samples, 1976; Samson, 1965).

5. Visual literacy is understanding visual language (Debes, 1970. 1972. 1975; Barley. 1971; Turbayne, 1970; Flory. 1978; Ausburn & Ausburn, 1978).

Images

Images arouse interest, motivate us to action, trigger emotions, and help us to recall past experiences. We can learn to read or understand visual language through the study of the visual event - its properties, elements, structure, syntax, subtlety and nuance. Through images we see hidden meanings, metaphors, analogies, categories, qualities, classifications, actions and interpretations. If we are visually literate, we are able to understand (read) these visual events and get meaning and pleasure from them. Also, we can use visual language (objects, symbols, body language) to convey our own messages, thoughts and feelings.

Advertizers are very adept at manipulating us with images (Key. 1976). Key (1976) wrote about the hidden implants of images in America's mass media and how these images program and condition our subconscious minds.

Many political groups have been able to use images to control and manipulate people through mass rallies, pageantry, and visual symbols. Paul Joseph Goebbels, Hitler's Minister of Enlightenment and Propaganda. inspired people to fanaticism through Hitler's speeches and Nazi symbols and images, playing on peoples' emotions at the expense of their reason. Obviously, we must guard against these visual and verbal manipulations. Effective education means that we can understand, use and appreciate the wealth of visual information that is available to us: we must become literate in the use of visual information and the images we see and create in our own minds.

Visual Elements and Technology

Most of the major ideas and concepts of visual literacy can be traced to four areas of study: linguistics, art, psychology and philosophy.

I have already discussed Arnheim's (1969) role with visual thinking from the art area and Turbayne's role in developing a philosophic analogy between verbal and visual language. I must mention the influence of Fries (1952) and Chomsky (1957. 1964. 1968, 1975) in the linguistics field, of Gregory's (1970) views on understanding and coping with perception from the viewpoint of psychology. and of Ihde's (1977) philosophical discussion of experimental phenomenology.

Fries (1952) believed that the study of verbal structure and elements would lead to verbal understanding and meaning. Similarly, visual literacy proponents believe that the study of line. shape. composition, color, syntax, movement and sequence of images provides insight and meaning for the visual event. Thus, the visually literate person is concerned not only with the subject content of images, but also with the way the images are presented, the symbol systems used, and the description and the experience of the visual event. Salomon (1979) wrote that a symbol system is "a set of elements that refer in specific ways to domains of reference and are interrelated according to some syntactic rules or conventions" (p. 20). In his research, Salomon (1979) found that when a person learns, he has to deal with a media's symbol system and that a learner gets different content and meaning from different symbol systems. A learner also must make different mental transformations and use different mental skills with various symbol systems (Salomon, 1979).

Noam Chomsky argued that natural verbal languages have two levels of communication: "surface" and "deep" structure (Gregory. 1970. p. 165). "Surface" structure deals with the accepted rules of sentence construction without consideration for meaning. "Deep" structure involves meaning and depends on the meanings of various words in the sentence for a person to appreciate the meaning of the entire sentence. The same could be said of visual language. For example, color, direction of light, illumination, movement of people and objects within a frame, placement of people within a frame, and sequence of frames are used in cinematography to produce certain meanings on the screen. These are the elements that describe a visual event which affect our experience and hence our understanding. For example, Ingmar Bergman's film, "The Seventh Seal," an allegory of the Middle Ages, presented the viewer with variations of light and subtle gradations of tone from black to white (Bobker, 1979, p. 55). The use of these tones gave the film a mood of foreboding, mystery. darkness and despair. The deeper structure of the film was thus realized not only from the characters, plot and acting (subject content), but from the dark images and mood created by the lighting element. Roman Polanski's film, "Chinatown," evoked the milieu of the 1930's, the era in which the story took place. through the use of yellow and brown tones that imitated the lighting style of films in the 1930's (Bobker, 1979. p. 55).

In the area of psychology, the research on how we infer meaning has had a strong influence on visual literacy practice and theory. Gregory (1970) in his book. The Intelligent Eye, explored the physiological qualities of human perception. Through 3-D illustrations, ambigous figures, and three-dimensional space, Gregory (1970) demonstrated that

perception is a continual series of simple hypotheses about the external world based on our biological past and influenced by human invention of symbol systems. Gregory (1970) argues that verbal language and symbols may have limitations because of their elitist function. Technology has created highly specialized people who have their own languages and jargon. Scientific, bureaucratic and elitist languages are creating illiterates by excluding those who lack the power of this specialized language and will not be able to think freely, creatively and rationally in a world controlled by these highly specialized groups. Addressing another problem, Mitchell (1979) has decried the misuse of the English language by administrators, researchers and bureaucrats who subject readers and listeners to obtuse, pedantic, or unintelligible reports, directives, and documents.

Technology necessitates that man develop newer, better methods and skills for handling information and preparing society for problem solving. Gregory (1970) says, "These situations demand different skills: different ways of ordering, handling and seeing objects" (p. 166). Visual literacy offers an innovative approach to understanding our environment and preparing for the future so that we do not "create a world beyond the restraints of our intelligence: a world we cannot see" (Gregory, 1970, p. 166).

Phenomenology and especially the experimental phenomenology of Ihde (1977) provides visual literacy with a new direction. As a philosophy, phenomenology departs from the traditional ways of doing and thinking. Ihde (1977) wrote, "It overturns many presuppositions ordinarily taken for granted and seeks to establish a new perspective from which to view things" (p. 17). Ihde (1977) describes two levels of knowing

phenomenon: one is a descriptive level of actually undergoing experience and the other is thinking about that experience. In the first category, "straightforward" experience, a person perceives it as real, as taking place in the present tense and the action as taking place within the experience. With "reflective" experience or thinking about that experience, a person is stepping outside the experience or distancing himself from that experience to thematize and bring meaning to it. Through reflection we are able to grasp the meaning of our experiences.

Visual literacy training offers the possibility for reflecting on preconceived actions or experiences through visual thinking. Actions, behavior, projects and ideas have always been conceived in the future tense, or perhaps the future perfect tense, in terms of planning. Our belief systems -- how we see ourselves and see future or projected actions -- can certainly affect those actions. For instance, in holistic medicine patients are being taught self-healing techniques through visualization (Bry. 1978, p. 67). It therefore seems plausible that not only can patients be taught to control their healing powers within their own bodies, but students can also use visualization techniques to teach themselves, prepare for future learning experiences, sharpen their memories, and improve self-image. We can rehearse our experiences as a kind of experiment and carry them to completion in our imagination. Dewey (1957) wrote:

> The experiment is carried on by tentative rehearsals in thought which do not affect physical facts outside the body. Thought runs ahead and foresees outcomes and thereby avoids having to await the instruction of actual failure and disaster. (p. 179)

I call this aspect of visual literacy: <u>visual rehearsal</u>.

Visual Rehearsal

It is important not only to use and understand visual information for communicating with others, but also it is useful to use the images in our minds as a means to improve our thinking. Some problems we encounter in our everyday lives call on powers that involve more than just verbal thinking. Visual thinking is an ability to create images in our minds to help us solve problems, interpret past experiences, relive moments, process and record meaning and create new meaning. We can do this by visually reliving past experiences and rehearsing future experiences through mental imagery. Have you ever thought back on an incident in the past and wished you had done something else rather than acted as you did? Have you ever visually imagined the consequences of a particular behavior and decided against that behavior? Have you ever visually rehearsed a scene in your mind when you were about to ask for something important such as a raise? Visual rehearsal is a method for preparing for future experiences. Visually rehearsing tasks, skills, assignments and activities beforehand can help make them less stressful and more successful.

For instance, visually rehearsing a speech before an imagined audience gives the speaker some confidence and practice. The speaker visualizes the seating arrangement, the faces and eyes of the audience, the ambience of the room, and the "image" he projects while he is delivering the speech. This is not a verbal rehearsal in the traditional sense but a visual experience that provides psychological readiness through a reflection upon images, a process much like the "movies of the mind" that Bry (1978) discusses in her book, Visualization: Directing the Movies of Your Mind. Visual rehearsal

along with verbal rehearsal, relaxation techniques, role playing, and imagining oneself in a future situation can help us to be better prepared for the future. Through reflection upon visual rehearsals, we can generate new meaning, imagine other possibilities, anticipate problems, detach ourselves from the here and now in order to experience potential future situations, choose the best strategies and make a conscious effort to control and become responsible for future experiences. Bry (1978) wrote that "solutions to seemingly insolvable problems can be found by turning in to our inner images" (p. 7).

Motion picture films are an area of study particularly suitable for the understanding of visualization. Woodruff (1976) wrote about the process of film viewing, "the viewer goes through a process of re-editing the film in her/his own mind" (p. 66). Meaning for or understanding of a particular film depends on how the viewer splices together images or frames from the film in his own mind (Woodruff, 1966). Woodruff (1976) also found that people attended to that visual information in a film that they felt would benefit them in the future. If viewers select images that are meaningful to them, as Woodruff (1976) suggests, then they are making choices. Those choices are based on intention, experience and agreement with personal beliefs. Therefore, the film viewer becomes a participant in the creation of the film event in his own mind along with the director and producer of the film. It is the responsibility of all of us to experience that film event or any other visual event critically, openly and rationally, to maintain our freedom of choice, keeping in mind the intentions, motivations and manipulations of the film director and producer.

Model for Understanding the Visual Event

I believe that understanding the visual event involves (1) the description of the visual event and (2) the experience of the viewer before, during, and after the event. The description involves the viewer's examination of the visual event from different perspectives and awareness of the structure and elements of the visual event. Description is similar to Chomsky's "surface" structure idea.

The experience of the individual is on three levels. The first level might be called "before-the-event" and this level is based on the background and previous experiences of the viewer. Paul Wendt (1962) said, "The meanings of pictures are not in the pictures themselves, but rather in what we bring to the pictures." The second level is the "straightforward experience" (Ihde. 1979, p. 45) or the event/experience as it happens. An individual experiences a visual event and becomes involved with it; he attends to the experience; the experience is real. The third level is thinking about the experience or reflection on the visual event. Ihde (1979) summarizes:

> Straightforward experience, I could and did characterize: it was actional- involved, immersed in the project of the moment, narrowly focused and concentrated. My thinking about that experience, also an experience in the general sense, was a reflection or a thematizing of the straightforward experience (p. 45).

A model for the visual event is provided in Figure 1. The premise is that a visual event has two levels of understanding: the surface (descriptive) level and the deeper (experience) level. Both levels are needed to comprehend and appreciate images and each affects the other. Perspective or point of view is necessary to examine the visual event, and perspective depends upon the background of the individual, the actual experience of the visual event in terms of amount of involvement,

sensations, effects, etc., and the reflections afterward. Structure and elements also influence and are influenced by background, the actual experience and the reflection upon that experience. Schiller (1976) wrote:

> Being visually literate is an aptitude. It is a capacity to use imagery (visual and manipulative impression and expression) to facilitate, deepen and complete comprehension and conceptual learning. By conceptual learning we mean the awareness of describable properties, relationships and connections among all visible and invisible phenomena in human experiences. (p. 4)

Teaching students to be visually literate therefore involves sharing mental strategies that use mental imagery, visualization, mnemonics, dual coding and symbolic systems to store information, interpret and develop new ideas, and solve problems. I suggest it is time to take another step in the development of creative thinking by including the research and theories on strategies and methods for understanding the visual event and thinking visually. Visual literacy is not only understanding and creating the visual event; it is a means to visual thinking and visual rehearsal.

Future theory development for visual literacy lies with phenomenological research because of its emphasis on doing, or what is often called "participatory experience." Martin Heidegger confessed that although he had thoroughly read the main works of Husserl, he was not able to understand phenomenology until he learned to "see phenomenologically" (Ihde, 1977). Visual literacy provides the training that enables us to "see" the visual event, whether it is the phenomenon of the external world or images we create in our own minds.

Description

1. **Perspective**
   - Time
   - Space
   - Conditions
   - Assumptions
   - Objective/Subjective
   - Beliefs

2. **Structure and Elements**
   - Features
   - Classification
   - Quality
   - Operation Analysis (changes)
   - Analogy
   - Metaphor
   - Movement
   - Symbol System

Experience

1. **Background**
   - History
   - Knowledge
   - Sociological
   - Psychological
   - Economical
   - Intelligence

2. **Straightforward Experience**
   - Character
   - Involvement
   - Reality
   - Action
   - Sensation
   - Effect

3. **Reflection**
   - Thinking about the Visual Event

Figure 1. Model for Understanding the Visual Event

References

Anderson, J. Visualization and verbalization as mediators of thought. Speech Monographs, 1974, 41, 408-412.

Arnheim, R. Toward a psychology of art. Berkeley and Los Angeles: University of California Press, 1967.

Arnheim, R. Visual thinking. Berkeley and Los Angeles: University of California Press, 1969.

Ausburn, L. J. & Ausburn, F. B. Visual literacy: Background, theory and practice. Programmed Learning & Educational Technology, 1978, 15, 291-297.

Barley, S. D. A new look at the loom of visual literacy. Rochester, New York: Eastman Kodak Company, October 9, 1971. (ERIC Document Reproduction Service No. ED 057 585)

Bobker, L. R. Elements of film (3rd ed.). New York: Harcourt Brace Jovanovich, 1979.

Bry, A. Visualization: Directing the movies of your mind. New York: Barnes & Noble Books, 1978.

Canelos, J. J. Three types of learning strategies and their effects upon learning from visualized instruction consisting of varying stimulus complexity. Research and Theory Division Instructional Communications and Technology Research Reports, 1980, 10 (4), 16-21.

Case-Gant, A. Visual literacy: An exciting environmental adventure. Richmond, Virginia: Richmond Public Schools, 1973. (ERIC Document Reproduction Service No. ED 071 448)

Chomsky, N. Syntactic structures. The Hague, Netherlands: Mouton, 1957.

Chomsky, N. Current issues in linguistic theory. The Hague, Netherlands: Mouton, 1964.

Chomsky, N. Language and mind. New York: Harcourt, Brace & Jovanovich, 1968.

Chomsky, N. The logical structure of linguistic theory. New York: Plenum Publishing, 1975.

Cochran, L. M., Yunghouse, P. C., Sorflaten, J. W., & Molek, R. A. Exploring approaches to researching visual literacy. Educational Communication and Technology Journal, 1980. 28 (4), 243-265.

Culhane, P. A visual approach to learning. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on

Visual Literacy. New York: Pitman Publishing Corporation, 1970.

Cureton, J. W., & Cochran, L. W. Visual literacy--the last word. Milford, Iowa: Summary Report of the Lake Okoboji Educational Media Leadership Conference, August 16-21, 1976. (ERIC Document Reproduction Service No. ED 135 360)

Debes, J. L. Some foundations for visual literacy. Audiovisual Instruction, 1968, 13, 961-964.

Debes, J. L. The loom of visual literacy--an overview. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman Publishing Corporation, 1970.

Debes, J. L. Some aspects of the reading of visual languages. Cincinnati, Ohio: Paper presented at the National Conference on Visual Literacy, March, 1972. (ERIC Document Reproduction Service No. ED 079 974)

Debes, J. L. Mind, languages, and literacy. New Orleans, Louisiana: Paper presented at the Annual Convention of the National Council of Teachers of English, November 29, 1974. (ERIC Document Reproduction Service No. ED 108 659)

Debes, J. L. The eyeful power. Dallas, Texas: Paper presented at the Association for Educational Communications and Technology Annual Convention, April 15, 1975. (ERIC Document Reproduction Service No. ED 108 658)

Dewey, J. Human nature and conduct. New York: Random House, 1957.

Dondis, D. A. A primer of visual literacy. Cambridge, Massachusetts: Massachusetts Institute of Technology, 1973.

Dwyer, F. M. An experiment in visual communication. Journal of Research in Science Teaching, 1969, 6 (2), 185-195.

Dwyer, F. M. Exploratory studies in the effectiveness of visual illustrations. AV Communication Review, 1970, 18, 235-249.

Dwyer, F. M. A guide for improving visualized instruction. State College, Pennsylvania: Learning Services, 1972.

Dwyer, F. M. Strategies for improving visual learning. State College, Pennsylvania: Learning Services, 1978.

Edwards, B. Drawing on the right side of the brain. Los Angeles: J. P. Tarcher, 1979.

Fleming, M. L. The picture in your mind. AV Communication Review, 1977, 25 (1), 43-62.

Flory, J. Visual literacy: A vital skill in the process of rhetorical

criticism. Atlanta, Georgia: Paper presented at the annual meeting of the Southern Speech Communication Association, April 4-7, 1978. (ERIC Document Reproduction Service No. ED 155 772)

Fork, D., & Newhouse, J. J. (Eds.). Exploration and interpretation: Theoretical approaches to the study of visual literacy and visual learning. Philadelphia: International Visual Literacy Association, 1978.

Foster, H. M. The new literacy: A manual for high school film teachers (Doctoral dissertation, University of Michigan, 1976). Dissertation Abstracts International. 1976. 37, 783A-784A. (University Microfilms No. 76-19, 134)

Fransecky, R. B. A multivariate study of a visual literacy training strategy for extending language study in elementary classrooms (Doctoral dissertation, University of Cincinnati, 1972). Dissertation Abstracts International, 1972, 33, 2691A. (University Microfilms No. 72-31744)

Fransecky, R. B., & Debes, J. L. Visual literacy: A way to learn--a way to teach. Washington, D. C.: Association for Educational Communications and Technology. 1972.

Fries, C. C. The structure of English: An introduction to the construction of English sentences. New York: Harcourt, Brace and Company, 1952.

Garbacik, M. A. A study of the performance of five-, seven-, and nine-year-olds on visual sequencing task. In J. W. Armstrong (Ed.), Proceedings of the Tenth Annual Conference on Visual Literacy. Bloomington, Indiana: International Visual Literacy Association, 1978.

Gardner, R., & Ingram, C. The Yettem school visual literacy project English as a second language. Paper read at the fourth annual TESOL convention, March, 1970, San Francisco, California.

Gibson, J. J. A theory of pictorial perception. Audio Visual Communication Review, 1954, 2, 3-23.

Gozemba, P. A. The effect of rhetorical training in visual literacy on the writing skills of college freshman (Doctoral dissertation, Boston University, 1975). Dissertation Abstracts International, 1975, 36, 1269A. (University Microfilms No. 75-20,950)

Gregory, R. L. The intelligent eye. New York: McGraw-Hill Book Company, 1970.

Haber, R. N. How we remember what we see. Scientific American, 1970. 222 (5), 104-112.

Hardwick, J. W. Filmmaking, filmmakers, and films: The filmmaker-in-the-schools approach (Doctoral dissertation,

University of New Mexico, 1975). Dissertation Abstracts International, 1975. 36, 6443A. (University Microfilm No. 76-7968)

Hedges, R. E. Photography & self-concept. Audiovisual Instruction, 1972. 17 (5), 26-28.

Hefferman-Cabrera, P. The camera as the eye of the mind: A pilot project for visual literacy and the teaching of English as a second language to disadvantaged Spanish speaking migrant children. Los Angeles: University of Southern California, 1970.

Hocking, F. O. A nationwide survey to determine visual literacy goals, constraints and factors influencing their selection (Doctoral dissertation, University of Colorado, 1978). Dissertation Abstracts International, 1978, 39, 2699A. (University Microfilms No. 78-20520)

Hortin, J. A. A confluence of theories for visual literacy theory development. Reading Improvement, 1980a, in press.

Hortin, J. A. Visual literacy--The theoretical foundations: An investigation of the research, practices and theories (Doctoral dissertation, Northern Illinois University. 1980b). Dissertation Abstracts International, in press. (University Microfilms No. 81-11564)

Hutton, D. W. Seeing to learn. Using visual skills across the curriculum. In J. W. Armstrong (Ed.), Proceedings of the Tenth Annual Conference on Visual Literacy. Bloomington, Indiana: International Visual Literacy Association, 1978.

Ihde, D. Experimental phenomenology: An introduction. New York: G. P. Putnam's Sons, 1977.

Johnson. B. D. Visual literacy, media literacy, and mass communications for English instruction (Doctoral dissertation, Northwestern University, 1977). Dissertation Abstract International, 1977. 38, 6581A. (University Microfilms No. 78-5287)

Jonassen, D., & Fork, D. J. Visual literacy: A bibliographic survey. Hershey. Pennsylvania: Paper presented at the Pennsylvania Learning Resources Association Annual Conference, November, 1975. (ERIC Document Reproduction Service No. ED 131 837)

Kepes, G. (Ed.). Module proportion, symmetry, rhythm. New York: George Braziller, 1966.

Key, W. B. Media sexploitation. New York: The New American Library, 1976.

Lamberski, R. J. Visual literacy: Emerging and diverging points of view. AECT Research and Theory Newsletter, 1976, 5 (3), 1. Washington, D. C.: Association for Educational Communications and Technology. 1976. (ERIC Document Reproduction Service No. ED 136

822)

Levie, W. H. A prospectus for instructional research on visual literacy. Educational Communication and Technology Journal, 1978, 26 (1), 25-36.

Lubke. L. H. Visual literacy: Learner-created photovisuals as a factor in language and concept development among early primary age children (Doctoral dissertation, State University of New York at Buffalo, 1978). Dissertation Abstracts International, 1978. 40, 649A. (University Microfilms No. 79-18743)

Majure. W. C. Visual literacy: The problem of externalization. AECT Research and Theory Newsletter, 1976, 5 (3), 16-17. Washington, D. C.: Association for Educational Communications and Technology, 1976. (ERIC Document Reproduction Service No. ED 136 822)

McKim, R. H. Experiences in visual thinking. Monterey, California: Brooks/Cole. 1972.

Minor. L. E. Effects of visual stimuli on verbal behavior. In C. M. Williams & J. L. Debes (Eds.). Proceedings of the First National Conference on Visual Literacy. New York: Pitman Publishing Corporation, 1970.

Mitchell, R. Less than words can say. Boston: Little, Brown and Company. 1979.

Mulholland, T. B. Attention and visual communication. Boston, Massachusetts: Paper presented at the Visual Literacy Conference. March 1, 1973. (ERIC Document Reproduction Service No. ED 082 481)

Murch. G. M. Visual and auditory perception. Indianapolis, Indiana: The Bobbs-Merrill Company, Inc., 1973.

Newhouse. J. J. Study of two instructional approaches for the acquisition of a high level of visual literacy competency by undergraduate, preservice teacher trainees (Doctoral dissertation, Temple University, 1977). Dissertation Abstracts International. 1977, 37, 7702A-7703A. (University Microfilms No. 77-13520)

Nuell. L. R. An evaluation of a large unified school district visual-literacy program: Its implications for art students (Doctoral dissertation. University of Kansas, 1971). Dissertation Abstracts International. 1971. 32, 5689A. (University Microfilm No. 72-11711)

Paivio. A. Mental imagery in associative learning and memory. Psychological Review, 1969, 76 (3). 241-263.

Paivio. A. Imagery and verbal processes. New York: Holt. Rinehart and Winston, Inc., 1971.

Paivio. A. Perceptual comparisons through the mind's eye. Memory and

Cognition, 1975, 3 (6), 635-647.

Patten, B. M. Visually mediated thinking: A report of the case of Albert Einstein. Journal of Learning Disabilities, 1973, 6 (7), 15-19; 420.

Ross, S. B., Jr. Visual literacy--a new concept? Brewster, New York: Green Chimneys School, 1972. (ERIC Document Reproduction Service No. ED 060 655)

Ruesch, J., & Kees, W. Nonverbal Communication. Berkeley and Los Angeles: University of California Press, 1956.

Salomon, G. Interaction of media, cognition, and learning. San Francisco: Jossey-Bass Publishers. 1979.

Samples, R. The metaphoric mind: A celebration of creative consciousness. Reading, Massachusetts: Addison-Wesley Publishing Company, 1976.

Samson. R. W. Thinking skills. Stamford, Connecticut: Innovative Sciences, Inc., 1965.

Schiller, H. A. The deepening nature of visual literacy. AECT Research and Theory Newsletter, 1976, 5 (3), 4-6. Washington, D. C.: Association for Educational Communications and Technology. 1976. (ERIC Document Reproduction Service No. ED 136 822)

Strandberg, T. & Griffith. J. Study of the effects of training in visual literacy on verbal language behavior. Journal of Communication Disorders, 1969, 2 (3), 252-263.

Taylor, I. A. Perception and visual communication. In J. Ball & F. C. Byrnes (Eds.), Research, prinicples, and practices in visual communication. Washington, D. C.: Department of Audiovisual Instruction. 1960.

Turbayne, C. M. The myth of metaphor. New Haven: Yale University Press, 1962.

Turner, M. L. Visual literacy assessment of mediated instructional expertise for educators (Doctoral dissertation, University of Missouri, 1978). Dissertation Abstracts International, 1978, 40, 90A. (University Microfilms No. 79-15299)

Wells, T. M. An investigation designed to test the feasibility of using visual literacy techniques and the language experience approach to reading to develop the reading abilities of remedial fourth grade readers (Doctoral dissertation, Michigan State University. 1975). Dissertation Abstracts International, 1975, 36, 1293A. (University Microfilms No. 75-20.903)

Wendt, P. R. The language of pictures. In S. I. Hayakawa (Ed.), The Use and Misuse of Language. Greenwich, Connecticut: Fawcett

Publications, 1962.

Whitsitt, R. C. An approach to the definition of visual literacy. AECT Research and Theory Newsletter, 1976. 5 (3), 9-10. Washington, D. C.: Association for Educational Communications and Technology, 1976. (ERIC Document Reproduction Service No. ED 136 822)

Williams, C. M. Nine visual literacy propositions and some related research. In C. M. Williams & J. L. Debes (Eds.), Proceedings of the First National Conference on Visual Literacy. New York: Pitman Publishing Corporation, 1970.

Wood, D. R. Visual education and the language arts: Toward the incorporation of visual concepts and skills in the secondary language arts program (Doctoral dissertation, University of Rochester, 1974). Dissertation Abstracts International, 1974, 74 180A. (University Microfilms No. 74-15,104)

Woodruff, S. K. A phenomenological approach to the analysis of film viewing (Doctoral dissertation, Ohio State University, 1976) Dissertation Abstracts International, 1976. 76, (University Microfilms No. 76-24,714)

Zettl. M. Sight, sound, motion: Applied media language. Belmont, California: Wadsworth Publishing Company, Inc., 1973.